

NBC NEWS - STS-1 LAUNCH (8:25 A.M E.T - 9:28 A.M E.T) (4-12-1981)

<https://www.youtube.com/watch?v=wt-MZPMilvI> (<https://www.youtube.com/watch?v=wt-MZPMilvI>)

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From Sunday, April 12th, 1981 NBC NEWS Live coverage of the first space Shuttle Launch with NBC NEWS John Chancellor, Tom Brokaw, Roy Neil, Jim Cummins, and Robert Bazell.

- Coverage runs from 8:25 A.M E.T - to 9:28 A.M E.T
Launch was at 7:00:03 A.M E.T

STS-1 CREW:

Commander: John Young

Polit: Bob Crippen

[00:00:00 \(https://www.youtube.com/watch?v=wt-MZPMilvI\)](https://www.youtube.com/watch?v=wt-MZPMilvI)

if you're looking for an empty parking space there's one at the kennedy space center cape canaveral florida it was the site of the launching this morning one hour and 25 minutes and 30 seconds ago of the columbia space shuttle orbiter now heading for the west coast of the united states at an altitude of more than 100 miles we are expecting before too long in about 10 minutes our first television transmission from space as the astronauts check out the latches 13 of them all together on the big cargo doors we have roy neal standing by in houston at the johnson space center in our special nbc mock-up of the flight deck and he's going to give us a kind of preview of what we may be seeing later on roy standing by is right because at this end of the spacecraft the astronauts stand to do what they have to do in the payload bay tom and right now uh at the moment they are out of their seats or should be matter of fact let's first of all pinpoint exactly where they are in space and then i'll come back to this point this is mission control and that's the map and if you look you'll see a lighted spacecraft which simulates the simulates is the columbia as it flies between hawaii and the united states here in mission control at the moment the communications technicians have been checking out all of the united states stateside stations and communications are good there now they're waiting for the spacecraft to come within range so that the astronauts can come back into communication and start talking to mission control and then feed some television there is in the payload bay there are in the payload bay two color cameras and one black and white and uh the plot right now will be for krippen to be on the left side and joe kerwin had better check me out on this pretty carefully because he does it regularly i look over their shoulders but crippen should be here on this side john young should be there on that side of the payload bay area and breaking down the duties crippen is really manipulating switches and levers while john young basically is looking out the window and looking at the television monitors to see what's happening now don't expect as we look at

[00:02:01 \(https://www.youtube.com/watch?v=wt-MZPMilvI&t=121s\)](https://www.youtube.com/watch?v=wt-MZPMilvI&t=121s)

now don't expect as we look at television don't expect those doors to open in a hurry it's been said here it's kind of like watching grass grow they move that slowly but the order of business first will be to throw the latching switches and there are four by the way of these latches on each bulkhead and there's 16 down the center line uh then the starboard the starboard uh door should open first very very slowly i doubt that we'll really see that much motion and then the port payload bay our cargo hold door will be open and then the

starboard one will be closed the portland will be closed and if they get through that whole exercise you can pretty well rest assured that this will be a reasonably full duration mission because this is the next most critical event right by now the inertial measurement unit the little black box is working well everything on board seems to be working well but this is a critical element and we should now be about to eight minutes eight to nine minutes away from the big experiment and from contact let's go back to our maps and see where they are now as you can see they're now getting rather close to the continental united states and to mexico roy neal yes sir uh have we've been listening to this press conference here at the uh at cape canaveral have you and houston heard the voices of the astronauts in the last 10 minutes or so no because they're out of contact out of ground station contact john uh over this part of the world they're there coasting through space and doing their thing independently of us that's a good point as a matter of fact there's such a difference between the lunar missions where they were in contact all the time and earth orbiting missions like this one where the only time we can hear them and they in turn hear mission control are those times when they're passing over ground stations this will be corrected later on because to be launched from the space shuttle will be a communications satellite which will keep future shuttles in constant contact but right now we're right back to where the space program

[00:04:01 \(https://www.youtube.com/watch?v=wt-MZPMilvI&t=241s\)](https://www.youtube.com/watch?v=wt-MZPMilvI&t=241s)

right back to where the space program once began only contacting over ground stations and uh we should be picking up their voices roy in about another two minutes i guess or two and a half minutes according to uh my information as a matter of fact i think we can call up a mission control map that should give us uh acquisition of signal aos it would be up on top there and i my monitor is not quite good enough so that i can't quite read it but that flickering signal up there should give us aos aos meaning acquisition of signals there we are 46 seconds there we are that's the mission control map itself about three quarters of the way down it says aos that's the one 39 now we know when we should have contact 39 more seconds the reason that these these doors could warp that's why they have to open so carefully doors could warp or the spacecraft could warp preventing the doors from closing neatly and cleanly after they're open so while we're waiting to hear their voices we're going to pause for this message back once again nbc news continuing the coverage of the launch of the columbia space shuttle orbiter now approaching the united states and its first television transmission from outer space as they open these big cargo bay doors that joe kerman and i have been talking about here all morning long it's going to be a very slow laborious cautionary procedure because this is critical to a successful flight we want to show you now joe and we'll talk about this as we speed up the sequence we've just got the voices of the astronauts and they say the latches are working that you've just been talking about good so they've been at work on those let's listen uh we'd like a voice check on uh air round one only please do you want us to come down there [Applause]

[00:06:04 \(https://www.youtube.com/watch?v=wt-MZPMilvI&t=364s\)](https://www.youtube.com/watch?v=wt-MZPMilvI&t=364s)

we're supposed to see that picture in about two and a half or three millimeter transmission they open this one up and then they close it back down and then they match it up again to make sure everything works and then they open the two of them right that's right and they're ten minutes ahead of schedule if that right door is open now they'll close it very very slowly and as the latches approach the rollers they will observe exactly how they go in and determine whether they can safely re-latch the door the astronauts now out of their seats and standing at an area overlooking this big cargo area john young running the television camera bob crippen running the note a remote control system that controls the doors and the latches one of the things to keep in mind when you see those doors which we expect to see here on our tv screens before very long is that they weigh 3 000 pounds and they will be moving very very slowly when they're when you see them but as we pointed out before if those doors can't be opened the spacecraft will heat up and they'll have to come back down they don't have enough cooling equipment aboard the spacecraft now to keep it cool without those doors open uh allowing the heat to escape from the very strong electrical systems that are aboard columbia and have i got that right joe carmen to sir thank you and we're waiting now for the picture which uh we have a one hour and 35 minutes of elapsed time since they left here at cape canaveral and at one hour

and 36 minutes we're supposed to see this picture and they've gone around the world the other way uh and they're coming back up over the west coast of the united states so they're moving right along at about 17 000 miles an hour at this point too let me think about seventeen thousand

[00:08:01 \(https://www.youtube.com/watch?v=wt-MZPMilvl&t=481s\)](https://www.youtube.com/watch?v=wt-MZPMilvl&t=481s)

let me think about seventeen thousand six hundred i guess yeah all right let's see we'll give you a quick look now at what you may uh see in uh slow motion later on in real time we're gonna speed it up and show you a little animated piece of film from nasa of what's going to happen out there with these doors there they are now that's the radiator as it is tilted out i think we're getting a picture from your animation that's still that's the animation yeah that's animation [Music] and that's from outside these are 60 foot long doors and as joe says they want to be very sure that nothing on the columbia orbiter itself is out of sync it underwent a pretty good buffering it's made of lightweight aluminum on the on the now there's the real picture from space that's that's a live picture from 100 miles up in space give or take a few miles happening right now one and a half hours after they left the pad here at cape canaveral okay that's a picture of inside the payload right now looking up and off toward the doors the doors are closed in that uh in that picture and these doors are reversed the starboard door see the little piece of debris floating up through the cargo bay so over 100 miles up going 17 600 miles an hour but it's very quiet what's that mean joe the dfi is special instrumentation and they just want it moted to high sample rates so it'll record all this activity we show all of the bulkhead uh latches closed now and they're now going down the center

[00:10:00 \(https://www.youtube.com/watch?v=wt-MZPMilvl&t=600s\)](https://www.youtube.com/watch?v=wt-MZPMilvl&t=600s)

and they're now going down the center line latching up the [Music] this is not terribly dramatic in terms of a picture but it is critical to this mission and critical to the future of the uh space shuttle right they're verifying the ability to re-latch the doors and only when they've done that will they be given a go to reopen the doors both of them among other things they want to make sure that they can close them tightly when they come back out of orbit uh two days from now uh from edwards the doors are very much part of the structural strength of the orbiter and you can't reintegrate them closer please okay roger position of the push is in the high sample i've roger we'd like to cycle with a little sample okay we're in low standpoint i've still got a great talk back joe roger we show it still continue to record we'll take a look at it griffin and young are now floating around or are they using those the suction cup shoes i suspect they are floating around they have not yet docked their uh injection escape suits they haven't had time to put on the suction shoes uh it'll be very interesting when they get back to talk about how well they worked and whether they were needed in columbia for the cdr uh we'd like to know if your tv picture is somewhat washed out or you got a good clear one it looks very washed out from here one half of it does it looks now as if they have two cameras each with each with half the screen

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television is very important up there not just for our purposes but because that's how they inspect each of the hinges and determine if there are any problems and uh door opened up nice and smooth came back it looked like uh really come through my position alpha and uh it came on down all the way to getting a closed shuttle control houston uh one hour 40 minutes mission elapsed time we show bob crippen uh again unlatching the doors uh going down the center line roger uh we copied the first part of that then we went into a handover but we copied that everything was right down the pike on the clothing [Music] joe what we're looking at that dark diagonal line is that the where the two doors come together do you suppose as best i can tell from that picture that's correct yes and uh when said position alpha he meant that when they closed the door the position of the latch was exactly on the nominal point for completing the land where it should have been right that's good news so what we're looking at is in effect the [Music] does that mean they're just getting a bad picture joe uh the problem on the dfi well the dfi has nothing to do with the picture or the doors it's simply the uh the instrumentation and tape recorders that are recording all this

[00:14:00 \(https://www.youtube.com/watch?v=wt-MZPMilvl&t=840s\)](https://www.youtube.com/watch?v=wt-MZPMilvl&t=840s)

recorders that are recording all this data and so it's stuck running they said evidently so the door procedure which is the important part is continues to go well that's right in about another half a minute we're going to lose that picture as they continue hurtling around the earth and then we may pick it up again in about another 10 minutes they may have another chance to give us some more television but as of now if it begins to look funny on your home screen that's because the columbia is moving out of the area in which they can send a picture down to earth i was hoping we'd see that door open uh one more confirmation on that we'd like to confirm that the dfi pcm is the one that you turned off stand by one uh the pcm recorder is in stop at the phone on the dfi dfi pcm recorder and stop fltp roger thank you now you see it beginning to go and it's gone and that's mission control at houston they've uh they've seen the picture the television camera is uh working control houston that uh one hour and 43 minutes of mission elapsed time uh we've lost our television transmission as we've passed out of milos station range and we're under acquisition now [Music] a little less than 10 minutes tom you must share with me the feeling that this is

[00:16:01 \(https://www.youtube.com/watch?v=wt-MZPMilvI&t=961s\)](https://www.youtube.com/watch?v=wt-MZPMilvI&t=961s)

that this is i just find it incredible they're talking about they're over the united states they're about to be picked up by bermuda they will have television signals going to madrid in 10 minutes i'm sorry i am just stunned by things like that they're moving right along in not what we have been thinking about it was hard for us to identify i think for those of us who the rest of us have flown in at one time or another this is about the size of a dc-9 when it comes right down to it it's a little stubbier quite an elegant looking craft and we'll be getting more pictures from the columbia space shuttle a troubled childhood but coming into adolescence very nicely thank you very much and we'll have continuing coverage from here at the kennedy space center after this nbc's coverage of the first space shuttle will continue in a moment the uh they're one hour and 46 minutes into the flight and nothing has gone wrong so far except a little bit of difficulty with something they are calling the dfi which is the development flight instrumentation package this is a recording device that records temperatures pressures various things which are used for analysis after the flight's over it isn't necessary for the flight roy neal is in houston at mission control and i think he has some more on this roy yes indeed john shuttle control houston here talking in my air i'm going to remove that for the moment because they're now out of contact they've just lost contact in bermuda next contact will be madrid and that's really what we're waiting for because that's our next shot at some television now that dfi the data flight uh instrumentation that you were referring to is something matter of fact it's in the payload bay itself really it was added for this flight and if anything is the experiment on the first flight of columbia that's it the spacecraft itself so that recorder will be used after the fact for analysis and they've turned it off now the turning on and turning off all the way through here is being done by

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way through here is being done by crippen and we've heard him in communication with dan brandenstein in mission control those are the voices we've heard for the most part john young staying fairly quiet as crippen operates such things as his payload recorder and he's been working here with the s-band we've heard them talking about s-band which is the communication set of frequencies the spectrum that they're working with and that by and large is what's ongoing so far everything inside the payload bay seems to be operating perfectly you realize of course that once they've finished with their experiments once they've checked out all the latches and made sure that the doors will open and closed correctly then they keep the doors open and we'll only experiment with them later on in the flight right now then let's see they should be about three minutes away maybe four from uh contact with madrid as a matter of fact let's punch up our mission control clocks and get a fix on exactly where they are and what they're doing right now there's our clock aos four minutes and one second if you look about three quarters of the way down that stack this gives us all kinds of times by the way that's one of the ways we stay in touch with the flight and we'll continue doing that even while listening to you john well thank you roy you keep at it robert bezell of our staff is here with george page the launch director a fellow who has spent quite a week in his life robert yes he sure has and he said a few minutes ago that he's been here for 25 years or more and this is one of the most exciting moments he's ever

had it certainly was exciting for a lot of other people did you ever think mr page that it was going to go as well as it did this morning no this exceeded all of my hopes i think that the countdown was much smoother than i thought it would be the fact that we lifted off at our uh planned t-zero was uh really terrific and the performance of the vehicle in flight to date at least as far as i know uh i think has been just fantastic how did how did today compare with yesterday before yesterday when you had all those problems oh my you know it's like difference between night and day we we had a lot of tired

[00:20:01 \(https://www.youtube.com/watch?v=wt-MZPMilvI&t=1201s\)](https://www.youtube.com/watch?v=wt-MZPMilvI&t=1201s)

night and day we we had a lot of tired people from a day before yesterday friday quite a letdown we didn't see an immediate fix to it i think the feeling now is oh it's just fantastic you're you are quite a veteran of the space program but can you describe your emotion at that moment when you see the engines begin to fire well i was i really didn't watch the engine start to fire i was trying to watch to make sure it got off and listening for any problems uh i felt good when i saw it uh do its roll and then start to pitch over and i just felt better and better the longer it stayed in flight was there anything at all even the most minute thing wrong with today's lunch we had very little talk about today i in fact you know i'm sure if i stop and think a little bit i may think of something but right now i can't recall of any significant problem we had that we had to talk about and this is a very complex system you would expect that you might have even had some more failures isn't that true well yes after uh friday's disappointment that problem we were sure wasn't going to happen again but i personally felt well okay we're going to get down to nine minutes and get into the gls and something's going to bite us and as that clock kept ticking by and we got down past one whole point after another uh just felt better and better nothing but you nothing but us how do you think the future shuttle watches is it going to get easier and easier each time i think eventually it will uh if the first few are going to be a little traumatic uh we'll learn something from this i'm sure there's some changes we'll put into the system from this and but i think we've got a launch team here now that's uh well tried you talked to the astronauts this morning was their mood any different today than it was on friday or or after their disappointment on friday particularly well you know you look back now and you can always say i think everybody felt a little more go today and it was going to go but no they sound about the same to me

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no they sound about the same to me they're always great guys always go they they just can't be slowed down mr page thank you very much congratulations on your success my pleasure and uh it was proud day for all of us over here indeed it was tom thank you very much bob busell if i may just repeat something that uh my colleague joe kerwin said he was watching that go and he said a few moments ago take that russians we're back in the game there's a lot of pride going on around here on the part of the nasa people we are now awaiting additional pictures from space from the columbia space shuttle we should have more pictures as they pass over the eastern part of the united states headed for madrid spain and they'll have the cameras trained on those payload bay doors that we have been talking about critical to this flight they must be open the first procedure went quite well we gather they opened the starboard door the right-hand door closed it down and they were buttoning up the latches once again and there's our picture from outer space and what are we seeing joe kirwan give me a minute looks like a lot it seems to me that what we are seeing is two open payload bay doors in the shiny surface be the radiators you know what i think yep that's what we are seeing is that the earth going by underneath it yes it is it ought to be yep isn't that something there they are they're upside down by our gravity standards and that's the earth from space i believe [Music] it does look like in fact you can see it passing beneath cloud formation and so on those radiators are throwing off the heat or they will if they have they been activated at this point the freon is flowing through them already the next step is to elevate them some so that both sides can reject heat you're looking right outside now here and there that's looking at the aft bulkhead right blame it quiet

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bulkhead right blame it quiet tiles are missing i've seen those are the heat resistant tiles that are designed to withstand the heat of reentry now we have a state vector coming your way that is not a part of the spacecraft that is going to get the maximum heat losing a tile there would not be as difficult as losing it in some other part that's correct because it's on the upper surface of the spacecraft and not the one that will see the uh the maximum heat but they will of course evaluate that in detail can you will you only know if tiles are missing by visual by looking at the at the places where they may be missing or do you have a computer read on that as well the only direct way is visual uh both this good visual and and the the photographs taken during launch of course the only direct way is the wrong way if the heat starts to come through through the mission they will they will be able to estimate from temperature readouts along the bottom surface of the orbiter whether it's responding to sunlight correctly and we'll get a clue as to whether it's properly protected and on later missions they'll be able to go outside and repair tiles but they don't have that at that facility now that's correct uh from what we can see above wings uh tops and uh all those are fully intact [Music] as far as the tiles are concerned right more critical and more securely fastened they're going to raise the radiators up now uh to get better heat rejection and that will uh secure that system and make it go for

[00:26:01 \(https://www.youtube.com/watch?v=wt-MZPMilvI&t=1561s\)](https://www.youtube.com/watch?v=wt-MZPMilvI&t=1561s)

secure that system and make it go for the missing towels uh also he reported colombia we're 30 seconds from os we'll see at the iowa there's the radiator out yeah the radiators up in it big white box in the middle of the payload they use our friendly dfi that's throwing the heat from the columbia out into outer space tiles on the wing appeared their wings appear to be intact yeah that's that's maybe the most important piece of news we've had this morning roy neal is standing by in houston roy you that last take that you had on the air as a matter of fact showed the screen going blank in mission control we have mission control right here with us this is charles lewis we call him chuck he's the flight director who will be up next replacing neil hutchinson who's taken them through the launch but chuck you've been here all along how did you feel when that thing took off this morning well i was home watching my tv i guess there were so many mixed emotions i had difficulty seeing the screen at times joy relief uh pride uh just a number of mixed emotions i was really choked up by the times were you still choked up just now when you were watching the screen and we were seeing the spacecraft through television eyes and you started seeing a few things like a couple missing tiles back there on those maneuvering system pods well not choked up it's still an emotional experience to see this for the first time uh we'll have to have a look at the tile areas and see what's behind those particular tiles uh and i'm sure they're doing that already in mission control we've got drawings and so forth to indicate what's directly below those uh what temperatures that area will see during entry and so forth that'll be evaluating i'm sure it's already started i guess the thrust of my question chuck because to us layman we're always concerned when perhaps we shouldn't be should we be concerned with the fact that some tiles are not there anymore i don't think so not this time until we've had a

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think so not this time until we've had a chance to evaluate uh like i said exactly what's beneath those tile areas uh i don't think we should be concerned at this time as a flight director just now as you were looking at the payload bay pictures what did you see that perhaps should be called to our attention i guess i saw the the radiators deployed uh that's uh that's what provides our cooling on orbit uh of course the tile uh everything else looked clean i guess it was just the radiators primarily we didn't get them deployed and we've got active cleaning on board the vehicle man all right and also those latches were latching and unlatching correctly right down the center line i heard that are part of it before i came over here and it sounds like everything in the uh there's several watch groups that have to work properly bulkheads and center lines it sound like all of that went very well one of the things incidentally that i noticed is that remotely controlled television cameras on board were enabling us here on earth to follow what goes on that's important later on is it not as that payload bay or cargo hold really gets used yes uh normally the initial requirements for tv for the vehicle and even in the past programs have been primarily a public relations device but it turns out for example uh we saw the tiles it turns out that many times they're a good engineering tool an aid in a visually seeing a problem area and from this station right now crippen and young standing there as yet haven't had to

push that little red button and their hand controller no computers haven't been used that's correct everything seems to be working just like it was advertised to work data flight indicator the recorder that they have dfi recorder i i haven't been in the control center uh apparently the indications are that's running continuously as opposed to a couple of other modes that we have where it just runs a few seconds then stops and so they've turned a week in time being while they troubleshoot right well i know that uh chuck lewis here is now anxious to get back into mission control he's about to take over

[00:30:00 \(https://www.youtube.com/watch?v=wt-MZPMilvI&t=1800s\)](https://www.youtube.com/watch?v=wt-MZPMilvI&t=1800s)

take over in another hour and a half and so tom let's get back to you all right roy we're going to talk some more about the tiles what we were looking at the columbia was in this kind of a configuration and the camera was pointing back up here and you were seeing some missing tiles back on this area back here if we can show you these are the orbital maneuvering engines in their fuel systems called the ohms pods the missing tiles were right on the top surfaces of those pies now it's going to be critical there are 31 000 of tile these tiles spun silicate from pure minnesota sand we're told they can withstand temperatures up to 2 700 degrees fahrenheit they'll hit very high temperatures on re-entry they had some trouble as you were getting the space shuttle columbia ready with them falling off the floor this is the critical surface though the nose and along here because it comes back in like this at one point and all that all the heat here and then the leading edges of the wings and the leading edge of the tail which is also clean how will they know if they've lost any tiles here because they don't have a camera on that area well if if they had lost any during the early launch phase they might very well have some some photography of it from these orbiting aircraft okay uh other than that indirectly through temperature measurements here if they found a spot where the temperature went up more rapidly than the surrounding area they might suspect a faulty tile can i just see that for a second that just to point out to those of you watching at home what they've done with this machine if you can get a close-up they have different materials right at the tip of the nose they have something called carbon carbon which will withstand heat up to 2 300 degrees fahrenheit that's carbon carbon there and carbon carbon along the leading edges of the wings and this is where the maximum temperature is when it comes in then along in here they have high temperature tiles that can take that can withstand heat up to 1300 degrees fahrenheit that's an incredible

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degrees fahrenheit that's an incredible amount of heat there and then they have low temperature tiles along the side which can go up to 1200 feet and the rest is covered with with something called nomax which anybody who's ever driven a racing car will know about that's a heat resistant material that's sometimes worn by racing drivers but they have adapted it for the use of this so it's got different kinds of heat resistant tiles all over it of different ability to withstand and that carbon carbon stuff must be just incredible and it's very very tough and we use it throughout the vehicle except for its weight how uh how many tiles can you lose off the bottom and not be critical uh it depends how many of them you lose in a in a you know an area yeah you know in a given area now are they lost during launch or can they i'm going to ask a deliberately dumb question joe can they fall off when they're up in space in the vacuum of space i don't see any possibility of their falling off in the vacuum of space because there are no forces on them during launch when the vehicle may be bending a little bit due to the stresses of the engines and so on that's when the problem is more likely to occur thank you very much joe kirwan we'll be back with continuing coverage of the launch of the columbia shuttle orbiter right after this perhaps we shouldn't make too much of the fact that the two of the tiles or four of the tiles that we saw are missing on a part of the uh spacecraft that really doesn't get a lot of heat on re-entry nevertheless the tiles have been a problem all along in this project they've invested about 315 million dollars in these tiles we have some pictures now to show you of the tiles being worked on and replaced because they had some difficulty with the tiles earlier now there they are and they are contoured to fit each individual uh space they're four by six inches six by eight inches sorry

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sorry and there are about 31 000 of those tiles aboard the spacecraft and uh and some earlier tests some of them fell off they had to be replaced it's been very time consuming it's been enormously costly but without the sixteen thousand pounds of tiles that they have on columbia it will burn up on re-entry so that's why it's extremely important as you know tom they are a computer design it's like a big jigsaw puzzle they were put into place after they've been designed by a computer and when they flew the uh the orbiter over here on the 747 they had some mock tiles in place they flew off and knocked off some of the real tiles so it's been a problem right along finding that yes it has but they have uh densified the tiles with special materials they have gone in and redone the bonding of the tile to the surface of the uh of the orbiter structure which is very critical you've got a kind of a felt thing between the orbiter surface and the tiles itself that's right and then between tile and tile they have stuffed little bits of felt like material to smooth those corners and finally they did pull tests on each and every individual tile one or two percent of those failed they immediately replaced them every tile on this vehicle was pull tested one of the things that we've all been fascinated with that this can be heated up as they have heated them up in high degree high temperature ovens to 25 20 2700 degrees then they pull them out of there and they absorb and hold the heat so well that you can hold the tiles by the corners with your fingers although i'm told that a couple of reporters made a mistake and almost lost their fingerprints as they could very quickly at those kinds of temperatures we have roy neal standing by with an update for us now from the johnson uh space center in houston texas what's going on down there what's going on here is that we're still following the mission even as utah and uh at the moment the astronauts are out of contact between tracking stations they've left madrid behind and shortly should be coming up over the indian ocean ship here's the big map in mission control to

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here's the big map in mission control to give you some better idea the spacecraft flying as it is over on the right hand side of that computer driven map and uh in mission control com tech the communications technician is checking out uh the indian ocean ship communications ii mission control so when the astronauts fly by there they can assure good contact between the tracking station and this point here right now on board too the astronauts is still working with the payload bay door latching tests and so forth shortly they'll leave that behind to get around to inertial measurement units starting to check out their gyros on board starting to check out their navigation systems and meanwhile orbiting the earth at about uh 16 500 miles an hour about 130 miles up everything working well from all indications in mission control a very happy group of flight controllers here apropos your comments have a few moments ago by the way john and tom uh i talked with chris craft about the whole tile system he had an interesting ad to what you were saying he said you know we've had so many problems over such a period of time that what we've come up with now is a system that we have great faith in because we've already had so many problems we think we work them all out okay john tom thank you roy it's always nice to have you with us the spacecraft is now two hours eight minutes and 48 seconds after launch it was launched this morning they are rather precise in this business at uh seven o'clock three and nine hundred and eighty three thousandths of a second after seven o'clock this morning we'll be back with more coverage after this nbc's coverage of the first space shuttle will continue in a moment we're back now continuing our coverage of the columbia space orbiter which is now in revolution two and it heads around the earth the second time and we should be getting some additional television pictures when it comes back we want to show you now some pictures that were transmitted from space earlier with the

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transmitted from space earlier with the payload bay doors open actually we won't be getting any more pictures for a time there they are open and they're focusing on the back the the columbia is flying upside down in effect and you're looking in the wing or the tail area where they have a couple of missing tiles you've heard a lot about the tiles on the columbia because it helps protect it during re-entry when a lot of heat is generated joe kerwin our resident expert and astronaut from nasa is with us that's not a whole bunch of tiles missing from one area so i wouldn't just guessing okay we have some transmissions i'm told coming in right now so let's listen and see what they have to say roger columbia and i'd like to pass up that your imus are

looking good so the constraints in the pdp are valid and we do have three flight notes we'd like to pass up when you have some time roger we'd like you to go to the panel 14 and 15 and check the status for us to give you a call when you get there what are they saying okay uh we had some bites on the dsc oi 1 and 4. we'd like to verify that on panel 014 row bravo circuit breaker main a oi signal conditioner of 1 and 4 alpha is in and our panel o15 roger we want to know the status of it we do not want you to do anything with it and also our oof of one size four alpha on oh 14 is in the one the oif one plus four bravo on o fifteen is top roger we copy and uh you can leave them right there that answers our question and we do have some uh cnw limits uh to change uh you're ready to copy those uh standby one

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one o i is operational instrumentation so we're talking uh sensors and uh tape recorders again and not fundamental systems and getting a another example of why this is called and accurately the most complicated vehicle ever assembled by man okay down here okay uh the upper limit on the cabin pressure is the parameter number four cabin press we'd like that change to three decimal eight zero volts which is 15.2 [Music] that puts hardware in sync with sm and we have recorded them here at nbc and we've isolated one picture showing us the tiles or the places where the tiles appear to be missing i'd like you to look at that now if you could with us we're going to put it up now this is our picture of taken from the pictures they sent us from space and we've just simply we call it a freeze frame and now that is part of the engine in the rear and if you can get a picture of this we can show you that's taken right along in here and that's that round thing that you see let me turn it this way now if you look at that that is this business right here is where we've got a missing tile and i think perhaps over here as well now can we look at the freeze frame there you see what i would call the the uh starboard column housing for that orbital maneuver sub-system right engine and there you can see quite clearly that there are a couple of tiles that are that are missing well i'm breaking all the crockery around here but i don't think they come without tiles i saved the model okay

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tiles i saved the model okay uh in any case that that doesn't look like such serious damage does it not to me no i'm not i'm not a tile expert uh i counted perhaps four or five tiles missing there possibly two uh two two together where the largest hole was it's interesting to note that the tiles have separated cleanly rather than a jagged area that would indicate perhaps an impact of something on that door or on that pod we have tiles which probably vibrated loose individually and uh and flew off sometime during the launch before we break away here for a moment just explain again if you will the fact is that in that area they weren't attached as tightly as they are on the underside of the coast correct and they are low temperature tiles in a relatively low temperature area of the orbiter and one which is close to both the shuttle main engines and the orbital maneuvering engines and uh automatically subject to higher vibration everything is relative in this the the low temperature parts of this spacecraft when they the maximum surface temperature when it's coming down on the the lowest temperature is 600 degrees fahrenheit and up at the nose it's 2700 degrees fahrenheit so it gets very very hot we'll have more coverage of the space shuttle after this we're back and we have been paying attention to uh the columbia space orbiters you all have minutes in revolution two now moving around the earth we've seen two sets of television pictures they showed us some missing tiles from the pods covering the over orbital maneuvering system we don't think that it's critical at this time but it's important that we just keep track of the situation and roy neal is standing by the nbc station at the johnson uh space center in houston texas with some additional details for us now roy i like that the nbc station because that's what this is it feels like being in a space station town right now the spacecraft is out of communication they've moved they're moving from the indian ocean in the direction of australia and once

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in the direction of australia and once they reestablish contact at yara gadi one of the australian tracking stations will immediately let you know here's the map just so you can see where they are look at the lower right hand corner and you can see the lighted spacecraft leaving the continent of africa behind next up will be

australia another thought too it would seem to any of us that if there is on this spacecraft the columbia a place where tiles would fall where they it's where they'd be subjected to the most pressure down here on the working end where the big engines burned and then later where the orbital maneuvering system engines burned and that thereby would be where you should get the most vibration and it would appear that that's exactly what happened that's where they got the most vibration and that certainly is where some fell off we don't know about the tiles on the rest of the spacecraft i suspect though that engineering will be asking the astronauts to look out their windows as best they can and they don't really have a very good view of the rest of the spacecraft all they can really see is inside the payload bay and outside the windows tonight kind of a day's end report from commander john young we expect a television transmission this will be much later than now and at that time i suspect that john will be telling us what he thinks as the commander of that spacecraft all right there's houston comm tech now just beginning to line up communications with yarrow gadi and that contact should not be for oh about another six or seven minutes so the situation then is we are out of contact with the spacecraft at the moment as it moves from africa into australia and john what's happening at the cape well one of the things that's happening is at the cape you know we at nbc news like to bring you all the news we can't quite today one of the things that we are unable to cover what the ornithologists did here this morning there this is the merritt island national wildlife reserve and there are 16 to 18 bald eagles here on this base not far from where the shuttle was launched this morning and they had ornithologists watching

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and they had ornithologists watching those eagles to see what their reaction was to the launch also brown pelicans wood stalks herons and egrets were being watched by ornithologists this morning nasa thinks of everything and we're going to show you a replay of what those birds saw we don't know how they reacted i know how we reacted here when the space shuttle took off it was a thrilling and majestic sight this morning and there it is [Music] and the shuttle has cleared the tower [Music] i cannot describe for you the sheer exhilaration the excitement and yes in fact the pride as we all watched that take off this morning people standing around who may have thought that they were world weary until liftoff came and then tears began running down their cheeks as well and great hoops of excitement here we'll continue with our coverage of the columbia space shuttle orbiter now on revolution two but first this nbc's coverage of the first space shuffle will continue in a moment the space shuttle columbia is sailing along now two hours and 25 minutes into its mission after a very successful launch here in an orbit of a hundred and thirty five thirty three and a half nautical miles by 132 nautical miles and later today they'll raise that to 150 nautical miles

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they'll raise that to 150 nautical miles roy neal in houston can you give us a further status report i think so uh john at the moment john young is beginning to line up his uh instrumentation to make sure that they that his instruments match what portion of the ground he's flying over at this time meanwhile bob griffin is still working on deploying those radiators in the payload bay and making sure that everything there is working well the spacecraft itself will be in contact with australia very shortly they're coming up on the yaragadhi tracking station soon and at that time they will communicate with houston and tell us what's going on here in houston itself the flight controllers neil hutchinson and his crew who have covered this entire operation through the launch are getting ready to start briefing charles lewis and his bronze team who will be next up so that they can take over and uh from houston that's it tom thank you very much roy neal we just want to bring you up to date on the fact that we'll be here all day long nbc news will and we'll be back on the air whenever development's warranted on the columbia space shuttle orbiter at 12 30 today eastern time we'll have a special update and then again at 4 30 this afternoon eastern standard time we expect to have more television pictures from earth and we will show them a pardon me from space back to earth from the columbia space shuttle orbiter and we'll be showing those to you at that time as well at this time everything is looking very good i would think from nasa there's a little tiny problem with a couple of the tiles but so far we don't think that it's critical right joe curve that's right they've got an hour's worth of work to do with the platform and the fuel cells they'll get a gopher orbit at about 3 hours and 30 minutes then they get to take

their suits off that's the entire orbit not the orbit they're in now well let's go for remaining in orbit past the rev5 right that says everything is nominal we're going to be up at least until tomorrow and if everything works out well they'll be up in the air for 54 and a half hours

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be up in the air for 54 and a half hours 36 orbits altogether there'll be a landing on tuesday at edwards air force base in california sometime between 11 30 to 2 30 in the afternoon again eastern time and nbc news will have live coverage of that as well the mission at this point is in very good shape according to all those who are connected with it i must say that you put up all kinds of hedges at nasa before you took off because when i talked with young and krippen they were saying we just want to get it up and get it back and that will be a successful mission it doesn't have to go the full 36 orbits so on behalf of john chancellor and joe kerwin from nasa our astronaut our expert our pal we hope that you'll stay with nbc news as we continue to bring you the developments on the successful launching of columbia the space shuttle orbiter this special report has been brought to you by nbc news

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